

Abstract

A method for inducing differentiation of monocytes contained in an extracorporeal quantity of a subject's blood into functional dendritic antigen presenting cells is provided. The monocytes are first treated by exposure to physical perturbation, irradiation in the presence of a photoactivatable agent capable of forming photoadducts with cellular DNA components, and/or treatment with a DNA binding agent. The treated monocytes are then incubated for a period of time sufficient to maximize the number of functional dendritic cells in the treated cell population. Functional dendritic cells generated from induced monocytes are incubated together with disease effector agents to enhance the presentation of at least one disease causing antigen expressed by the disease effector agents. Compositions including dendritic cells derived from induced monocytes and compositions including such dendritic cells incubated with disease effector agents are also provided.